What is claimed is:

1. A lens barrel comprising:

a cam barrel for rotating around an optical axis;

a plurality of cam grooves formed in said cam barrel,

5   said cam grooves having an identical form, and positions thereof being shifted in a rotational direction and in an optical-axis direction respectively;

a plurality of cam followers engaging with said cam grooves respectively;

10   a movable member provided with said cam followers; and

a guide member for guiding said cam follower pressed by said cam groove when said cam barrel is rotated, such that said cam follower is moved in said optical-axis

15   direction without revolving.

2. A lens barrel according to claim 1, wherein said movable member has a ring shape and a first lens is attached to the inside thereof.

3. A lens barrel according to claim 2, wherein said

20   cam grooves are formed at regular intervals in said rotational direction.

4. A lens barrel according to claim 3, wherein said cam grooves are formed at constant intervals in said optical-axis direction.

25   5. A lens barrel according to claim 4, wherein said cam groove has a zigzag shape.

6. A lens barrel according to claim 5, wherein a number

of aid cam grooves is three, and said cam grooves are formed at 120-degree intervals in said rotational direction.

7. A lens barrel according to claim 2, wherein said guide member is a guide opening extending in said optical-axis direction and said guide opening is formed in a frame member, which is disposed inside said cam barrel so as to be movable in said optical-axis direction, said frame member movably containing said movable member.

8. A lens barrel according to claim 7, wherein a peripheral surface of said movable member is provided with sliders, which are slidably fitted to said guide openings and on which said cam followers are fixed.

9. A lens barrel according to claim 8, wherein said frame member holds a second lens behind which said first lens is moved in the optical-axis direction to perform zooming and focusing.